GW - 141

PERMITS, RENEWALS, & MODS

Application

David L. Wisdom, P.E.
Consulting Engineer

915-699-6054

3509 Woodhaven
Midland, TX 79707

GW-141

Mr. Chris Eustice
NMOCD
P.O. Bx. 2088
Santa Fe, New Mexico 87501

March 4, 1993

Dear Chris,

I am enclosing the discharge plan application for the Parker & Parsley Gas Processing Loving gas plant currently under construction in Eddy County, New Mexico. I have tried to follow the discharge plan guidelines but some of the information requested is unavailable at this time. I would appreciate your timely inspection of the discharge plan for errors or emissions.

Plans call for the plant to have initial startup at the end of March. This could change but I will contact you when we have a better idea of the actual startup date. I plan on requesting a 120 day waiver on the discharge plan as we discussed.

If you have any questions or need more information please call me at (915)-520-2546.

Sincerely,

David L. Wisdom P.E.

DISCHARGE PLAN APPLICATION

PARKER & PARSLEY GAS PROCESSING

LOVING GAS PLANT

EDDY COUNTY NEW MEXICO

5/92

State of New Mexico
Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87501

DISCHARGE PLAN APPLICATION FOR NATURAL GAS PROCESSING PLANTS, OIL REFINERIES AND GAS COMPRESSOR STATIONS

(Refer to OCD Guidelines for assistance in completing the application.)

I. TYPE: GAS RPOCESSING PLANT

II. OPERATOR: PARKER & PARSLEY GAS PROCESSING

ADDRESS: 600 West Illinois Midland, Texas 79701

CONTACT PERSON: Mr. Lonnie DeLay PHONE: 915-686-4590

III. LOCATION S 2/4 NE1/4 Section 3 Township 24S Range 28E
Submit large scale topographic map showing exact location.

FAX #

IV. Attach the name and address of the landowner(s) of the disposal facility site.

V. Attach description of the facility with a diagram indicating location of fences, pits, dikes, and tanks on the facility.

VI. Attach a description of sources, quantities and quality of effluent and waste solids.

VII. Attach a description of current liquid and solid waste transfer and storage procedures.

VIII. Attach a description of current liquid and solid waste disposal procedures.

IX. Attach a routine inspection and maintenance plan to ensure permit compliance.

X. Attach a contingency plan for reporting and clean-up of spills or releases.

XI. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact fresh water. Depth to and quality of ground water must be included.

XII. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

XIII. CERTIFICATION

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: David L. Wisdom Title: Consulting Engineer

Signature: David L. Wisdom Date: 3/4/93

DISTRIBUTION: Original and one copy to Santa Fe with one copy to appropriate Division District Office.

I. **TYPE OF OPERATION**

Gas Processing for the purposes of liquids extraction from raw natural gas.

II. **OPERATOR/LEGALLY RESPONSIBLE PARTY.**

Parker & Parsley Gas Processing
Mr. Lonnie DeLay
600 West Illinois
Midland, Texas 79701
(915)-683-4768

III. **LOCATION OF FACILITY**

Located in the S 1\2 of the NE 1\4 of Section 3, Township 24, South, and Range 28 East in Eddy county, New Mexico. The plot dimensions are 420' X 1050'.

IV. **LANDOWNERS**

Parker & Parsley Gas Processing
600 West Illinois
Midland, Texas 79701

V. **FACILITY DESCRIPTION**

See Plot Plan Attachment. The facility is a 4 MMSCFD Cryogenic Natural Gas Processing Plant. At present the plant is under construction with startup anticipated in April. There will be one underground sump to catch oil runoff from compressors that will be built to NMOCD specifications with leak detection and secondary liner as well as the three above ground storage tanks. These tanks consist of above ground methanol storage, lube oil storage, waste liquids tank and flare knockout drum. The refrigerant storage tanks and the sales storage tank contain a LPG gas under pressure that will be in the vapor state at STP. In addition to the processing skids there is two compressors site rated at 500 HP each. Produced water and process piping is shown on the attached plot plan.

VI. SOURCES, QUANTITIES & QUALITY OF EFFLUENT & WASTE SOLID

A. VOLUMES AND AMOUNTS

1. Separators- Approximately 150 BBl/Mo. Produced Water

2. Sewage- Domestic only, no comingling

3. Waste lubrication and motor oil-Approximately 3 BBl/Mo. All waste lube oil will be collected and sent out for recycling. This is done by collecting the waste oil in below grade sump which has secondary containment and leak detection per recommended guidelines.

4. Used oil Filters-Approximately 8/ Mo. Will be taken to approved waste disposal site.

5. Engine Cooling Waters-<10 gal/Mo.

6. Cooling Tower-N.A.

7. Boilers-N.A.

8. Waste and Slop oil- < 10 gal/Mo.

9. Solids and sludges from tanks.-N.A.

10. Cleaning operations-Neglible

11. Truck, tank and drum washing-None

12. Other liquid and solid waste-<10 gal/Mo. Mole Sieve used for gas dehydration is a solid with a total amount of approximately 4000 # which will be replaced approximately ever 5 years. This will be taken to an approved site for disposal.

B. ANALYSIS

These analysis are estimated from nearby production facilities. Engine cooling waters will come from the domestic water supply in Malaga N.M. These analysis can be provided at a later date.

Produced Water

Parameters	Results mg/L
Calcium	29920
Magnesium	4226
Sodium	66000
Potassium	2600
Carbonate	0
Bicarbonate	102
Sulfate	346
Chloride	173033
TDS @ 180 C	290540
Total Hardness	92200
pH 6.44	

BTEX

	mg/L
Benzene	1.3
Toluene	* .1
Ethyl Benzene	* .1
Total Xylenes	.25

* Denotes "less than"

TOTAL METALS

Parameters	Results mg/Kg
Arsenic	* 1.0
Barium	15
Cadmium	* 1.0
Chromium	* 5.0
Lead	* 5.0
Mercury	* 0.5
Selenium	* 1.0
Silver	* 2.0

*Denotes "less than"

VII. TRANSFER & STORAGE OF PROCESS FLUIDS

The majority of process transfer will take place at the 60,000 gal 250 PSIG storage bullet. This will be the NGL's recovered from the gas stream. This will be trucked off for sale and injection to a pipeline. The bullet will contain a liquid under pressure but at STP will be vapor. As can be seen on the plot plan the propane storage and the waste oil tank are also inside the Berm. The waste oil tank line will operate at a pressure of 2-5 PSIG.

The waste oil tank is set on gravel and will be emptied by vacuum truck. The produced water will be taken to the Parker & Parsley 27-8D SWD well an OCD approved produced water disposal site, located unit H sec. 27 T23E R28E and the oil will be taken to pipeline or recycling center for sales. Under ground lines under pressure carrying liquids are shown on the attached plot plan all are new and are schedule 40. Hydrostatic testing will be performed when construction is completed. All tanks shown on the plot plan are pressurized except lube oil storage, methanol, and waste oil tanks. All have a berm equal or greater than 1.33 of the tank volume. The lube oil and methanol storage tanks are set above grade for easy leak detection by means of skirts and platforms.

non exempt

There is one below grade sump to catch engine oil runoff and this is equipped with a secondary synthetic liner with a 300 gal fiberglass tank and approved leak detection system. The 2" line shown on the plot is schedule 40 and the 6" is .188 w.t. The operating pressure of the lines is approximately 10 PSIG.

VIII. EFFLUENT DISPOSAL

There is no injection wells at the site and all produced water will be shipped off site for disposal. Effluent from sanitation facilities is not comingled with plant processes and is sent to a leach field.

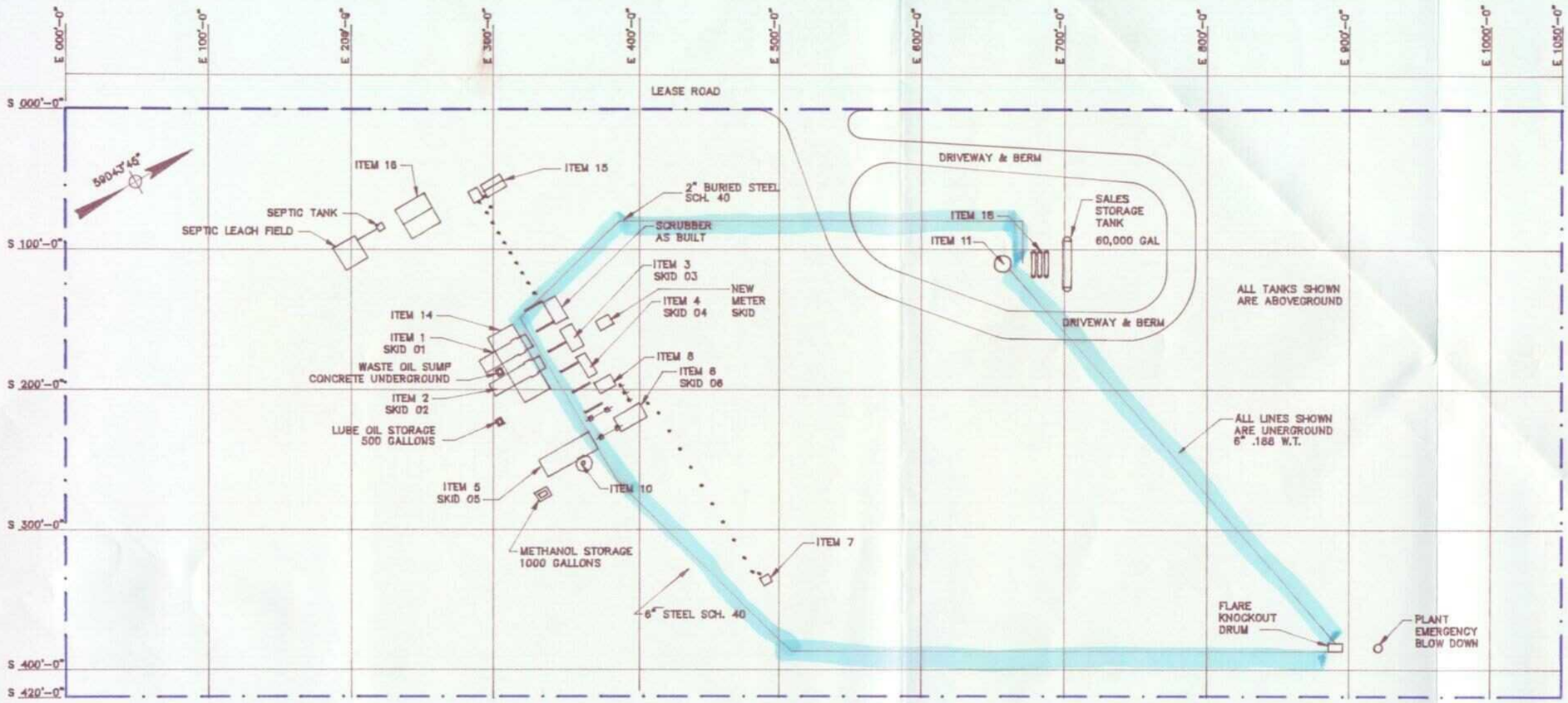
IX. INSPECTION, MAINTENANCE AND REPORTING (Contigency)

Any significant leaks noted will be immediately reported to the NMOCD. The threshold level will be 10 BBl or more of effluent. The plant is manned 8 hours daily. The operator will check for leaks and general housekeeping order on a daily basis. The operator will keep a monthly inspection record of the leak detection system for the underground storage tanks. In the event a significant leak occurs, procedures will be immediatley taken to remove the contaminant and a through inspection of procedures and equipment will be started to insure the integrity of the system.

X. SITE CHARACTERISTICS

The nearest body of water is the Black River approximately 1500' due South of the plant property line.

The depth to water is approximately 18' with a TDS of approximately 2950 and a Chloride content of 1480. The aquifer is the alluvial consisting of sand and gravel. The soil type is made up of loose, non-calcareous, sandy loams and loamy sands. This information was provided by the State Engineers Office in Roswell. In addition the site is not located in a flood plane and no danger of flooding exists.



ITEM 1 SKID 01 (TO BE REPLACED)
12.2 L.P. COMPRESSOR
17.2 2ND STAGE SUCTION SCRUBBER
17.3 3RD STAGE SUCTION SCRUBBER
16.1 L.P. GAS COMPRESSOR COOLER

ITEM 2 SKID 02
12.3 PROCESS COMPRESSOR
17.5 RECOMP. SUCTION SCRUBBER
17.6 RECOMP. SUCTION SCRUBBER
16.2 RECOMPRESSOR AFTERCOOLER

ITEM 3 SKID 03
17.1 1ST STAGE SUCTION SCRUBBER
17.4 3RD STAGE DISCHARGE SCRUBBER
18.3 FLASH LIQUID BOOSTER PUMP
18.4 FLASH LIQUID PUMP

ITEM 4 SKID 04
17.7 REFRIGERANT SUCTION SCRUBBER
17.8 REFRIGERANT DISCHARGE SCRUBBER
17.12 REGENERATION GAS SCRUBBER
17.21 FUEL GAS SCRUBBER

ITEM 5 SKID 05
12.1 EXPANDER COMPRESSOR
16.6 GAS-GAS EXCHANGER
16.7A PRODUCT EXCHANGER
16.7B GAS CHILLER
16.7C DEMETHANIZER REBOILER
16.7D DEMETHANIZER FEED HEATER
16.8 PRODUCT COOLER
17.9 REFRIGERANT SURGE TANK
17.14 HIGH PRESSURE SEPERATOR
17.15 COLD SEPERATOR
17.18 PRODUCT COALESCER
17.19 PRODUCT SURGE TANK
17.20 CHILLER SEPERATOR
18.1A PRODUCT TRANSFER PUMP
18.1B SPARE
18.1B PIPELINE PUMP
18.2A SPARE

ITEM 6 SKID 06
17.10 DEHYDRATOR FILTER SEPERATOR
17.11A DEHYDRATOR
17.11B DEHYDRATOR
17.13 DUST FILTER

ITEM 7
14.1 REGENERATION GAS HEATER

ITEM 8
16.11 REFRIGERANT CONDENSER
16.10 REGENERATION GAS COOLER
16.9 EXPANDER LUBE OIL COOLER

ITEM 9
17.16 DEMETHANIZER

ITEM 10
17.17 NOT REQUIRED

ITEM 11
19.1 WASTE LIQUIDS TANK 500 BBL

ITEM 12
19.2A REFRIGERANT STORAGE TANK
19.2B REFRIGERANT STORAGE TANK
19.2C REFRIGERANT STORAGE TANK

ITEM 13
20.2 INSTRUMENT AIR SYSTEM

ITEM 14
11.1 COMPRESSOR SHED

ITEM 15
11.2 CONTROL ROOM

ITEM 16
**** OFFICE AND WAREHOUSE

NEW ITEMS
SALES STORAGE TANK 60,000 GAL
FLARE KNOCKOUT DRUM 2000 GAL.
PLANT EMERGENCY BLOW DOWN
METHANOL STORAGE 1000 GAL.

No.	REVISION	CHKD.	P.E. No.	JOB No.	BY	DATE	BY	DATE	BY	DATE	BY	DATE
					DRAWN		CHECK		E.A.		APPROVED	

PREPARED FOR
PARKER & PARSLEY GAS PROCESSING

REFERENCE DRAWINGS

TITLE
LOVING GAS PLANT
DISCHARGE PLAN

BY
WISDOM ENGINEERING LTD.

SCALE 1"=30'	DATE	SHEET	P.E. No.	DATE
DRAWN		E.A.		
CHKD.		APPROVED		
	JOB No.	DRAWING NUMBER		REVISION

ACAD FILENAME: LAYOUT

Material Safety Data Sheet

Hoechst Celanese

Chemical Group
Hoechst Celanese Corporation
P.O. Box 569320 / Dallas, Texas 75356-9320
Information phone: 214 689 4000
Emergency phone: 800 424 9300 (CHEMTREC)

Methanol

Issued December 31, 1990

#56

Identification

Product name: Methanol

Chemical name: Methanol

Chemical family: Alcohol

Formula: CH_3OH

Molecular weight: 32

CAS number: 67-56-1

CAS name: Methanol

Synonyms: Methyl alcohol; carbinol; monohydroxymethane; methyl hydroxide.

Department of Transportation information
Shipping name: Methanol
Hazard classification: Flammable Liquid
United Nations number: UN1230
Emergency Response Guide no.: 26
Reportable Quantity: 5000 lb/2270 kg

Physical data

Boiling point (760 mm Hg): 64.6°C (148°F)

Freezing point: −97.8°C (−144°F)

Specific gravity (H_2O = 1 @ 20/20°C): 0.7925

Vapor pressure (20°C): 96.0 mm Hg

Vapor density (Air = 1 @ 20°C): 1.11

Solubility in water (% by WT @ 20°C): Complete

Percent volatiles by volume: 100

Evaporation rate (BuAc = 1): 2.0

Appearance and odor: Clear, colorless, mobile liquid with mild alcohol odor.

Fire and explosion hazard data

Flammable limits in air, % by volume
Upper: 36.5
Lower: 5.5

Flash point (test method):
Tag open cup (ASTM D1310): 60°F (15°C)
Tag closed cup (ASTM D56): 54°F (12°C)

Extinguishing media:
Use CO_2 or dry chemical for small fires. Alcohol-type aqueous film-forming foam or water spray for large fires. Water may be ineffective but should be used to cool fire-exposed structures and vessels.

Special fire-fighting procedures:
If potential for exposure to vapors or products of combustion exists, wear complete personal protective equipment and respirator approved by both NIOSH and MSHA and within the working limits of the respirator:

Self-contained breathing apparatus with full facepiece operated in pressure demand or other positive pressure mode.

Supplied-air respirator with full facepiece and operated in pressure-demand or other positive pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

Water spray can be used to reduce intensity of flames and to dilute spills to nonflammable mixture.

Unusual fire and explosion hazards:
Vapor is heavier than air and can travel considerable distance to a source of ignition and flashback. Material can burn with little or no visible flame.

Component information

(See Glossary at end of MSDS for definitions)[1]

Component, wt. % (CAS number)	Exposure levels: OSHA PEL TWA; STEL (15)	ACGIH TLV® TWA; STEL (15)	IDLH	Subject to SARA §313 reporting?
• Methanol, 99.5-99.85% (67-56-1)	200 ppm; 250 ppm (skin)	200 ppm; 250 ppm (skin)	25,000 ppm	Yes

(1) All components listed as required by federal, California, New Jersey and Pennsylvania regulations.

Special hazard designations

	HMIS	NFPA
Health:	3	1
Flammability:	3	3
Reactivity:	0	0
Personal protective equipment:	G	—

Key: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

SARA §311 hazard categories

Acute health:	Yes
Chronic health:	Yes
Fire:	Yes
Sudden release of pressure:	No
Reactive:	No

Reactivity data

Stability:
Stable

Hazardous polymerization:
Will not occur.

Conditions to avoid:
Heat, sparks, flame.

Materials to avoid:
Sulfuric acid; oxidizing agents such as hydrogen peroxide, nitric acid, perchloric acid and chromium trioxide.

Hazardous combustion or decomposition products:
Carbon monoxide.

Health data

Effects of exposure/toxicity data

Acute

Ingestion (swallowing): Poisonous or fatal if swallowed. A small amount (usually two or more ounces) can cause mental sluggishness, nausea and vomiting leading to severe illness, and may produce adverse effects on vision with possible blindness or death (in humans) if treatment is not received. Practically non-toxic to rats (oral LD_{50}: 7.5 g/kg).

Inhalation (breathing): Extremely high levels cause stupor, headache, nausea, dizziness, unconsciousness and may produce adverse effects on vision. Practically non-toxic in rats (inhalation LC_{50}, 4 hrs: 64,000 ppm). Repeat exposure of monkeys to 5000 ppm 6 hr/day, 5 days/wk for 4 weeks caused no toxic response or effects on vision.

Skin contact: Repeated or prolonged contact causes drying, brittleness, cracking and irritation. Prolonged and repeated skin contact with methanol-soaked material has produced toxic effects including vision effects and

(continued)

death. Low toxicity to animals by skin contact (minimum lethal dose, monkeys: 1.6 g/kg).

Eye contact: May cause eye injury which may persist for several days. Liquid, and vapor in high concentrations, causes irritation, tearing and burning sensation.

Chronic

Mutagenicity: *In vitro*, limited evidence of mutagenicity (mouse lymphoma forward mutation assay) *In vivo*, no information.

Carcinogenicity: No evidence of carcinogenic potential in limited animal studies in which methanol was given orally or applied to the skin.

Reproduction: Methanol – reported to cause birth defects in rats exposed to very high levels of vapors (20,000 ppm).

Medical conditions aggravated by exposure:
Significant exposure to this chemical may adversely affect people with chronic disease of the central nervous system, skin, gastrointestinal tract and/or eyes.

Emergency and first aid procedures

Ingestion (swallowing): Induce vomiting of conscious patient immediately by giving two glasses of water and pressing finger down throat. Contact a physician immediately.

Inhalation (breathing): Remove patient from contaminated area. If breathing has stopped, give artificial respiration, then oxygen if needed. Contact a physician immediately.

Skin contact: Remove contaminated clothing and wash contaminated skin with large amounts of water. If irritation persists, contact a physician.

Eye contact: Flush eyes with water for at least 15 minutes. Contact a physician immediately.

Note to physician: When plasma methanol concentrations are higher than 20 milligrams per deciliter, when ingested doses are greater than 30 milliliters, and when there is evidence of acidosis or visual abnormalities, a 10% solution of ethanol in 5% aqueous dextrose, administered intravenously, is a safe, effective antidote *(Western Journal of Medicine*, March 1985, p. 337).

Spill or leak procedures

Steps to be taken if material is released or spilled:
Eliminate ignition sources. Avoid eye or skin contact. Place leaking containers in well-ventilated area. If fire potential exists, blanket spill with foam or use water spray to disperse vapors. Contain spill to minimize contaminated area and facilitate salvage or disposal. To clean up spill, flush area sparingly with water or use an absorbent. Avoid runoff into storm sewers and ditches which lead to natural waterways. Call the National Response Center (800-424-8802) if spill is equal to or greater than reportable quantity (5000 lb/day) under "Superfund". All clean-up and disposal should be carried out in accordance with federal, state and local regulations. If required, state and local authorities should be notified.

Waste disposal method:
This product when spilled or disposed is a hazardous solid waste as defined in Resource Conservation Recovery Act regulations (40CFR261). Preferred method is incineration or biological treatment in federal/state approved facility.

Special protection information

Respiratory protection

*** Based on contamination level and working limits of the respirator, use a respirator approved by both NIOSH and MSHA:**

2000 ppm – Any supplied-air respirator. Any self-contained breathing apparatus.

5000 ppm – Any supplied-air respirator operated in a continuous flow mode.

10,000 ppm – Any self-contained breathing apparatus with a full facepiece. Any supplied-air respirator with a full facepiece. Any supplied-air respirator with a tight-fitting facepiece operated in a continuous flow mode.

25,000 ppm – Any supplied-air respirator with a full facepiece and operated in a pressure-demand or other positive pressure mode.

Escape – Any appropriate escape-type self-contained breathing apparatus.

Ventilation

Local exhaust: Recommended when appropriate to control employee exposure.

Mechanical (general): Not recommended as the sole means of controlling employee exposure.

Protective gloves:
Neoprene or rubber.

Eye protection:
Chemical safety goggles.

Other protective equipment:
For operations where spills or splashing can occur, use impervious body covering and boots. A safety shower and eye bath should be available.

Special precautions

Precautions to be taken in handling and storing:
Store in a cool, well-ventilated area. Do not expose to temperatures above 49°C (120°F). Keep away from heat, sparks and flame. Keep containers closed. Use only DOT-approved containers. Use spark-resistant tools. Do not load into compartments adjacent to heated cargo. When transferring follow proper grounding procedures. Use with adequate ventilation. Provide emergency exhaust. Avoid breathing vapor. Avoid contact with eyes, skin and clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before re-use. Discard contaminated leather clothing.

* New or revised information; previous version dated February 16, 1990.

Glossary for Components information table

ACGIH	American Conference of Governmental Industrial Hygienists	SARA	Superfund Amendments and Reauthorization Act
CAS	Chemical Abstract Service	Skin	Potential contribution to overall exposure possible via skin absorption
IDLH	Immediately Dangerous to Life or Health	STEL	Short-term exposure level; 15-min. TWA
OSHA	Occupational Safety and Health Administration	TLV	Threshold limit value
PEL	Permissible exposure limit	TWA	8-hour time-weighted average

Chemical Group
Hoechst Celanese Corporation
P.O. Box 569320/Dallas, Texas 75356-9320
Information phone: 214 689 4000
Emergency phone: 800 424 9300 (CHEMTREC)

Label

MOLECULAR SIEVES

13X 8-12 Mesh Beads
(1/16 Inch Nominal

A SYNTHETIC SILICO ALUMINATE ZEOLITE
ADSORBENT FOR DEHYDRATION AND SELECTIVE SEPARATIONS

WARNING
Contains quartz, which may caus cancer or other diseases of the lungs or respiratory tract, wit repeated or prolonged exposure

DAVISON CHEMICAL
A GRACE DIVISION
BALTIMORE, MARYLAND 21203

GRADE 544 10 Å EFFECTIVE PORE SIZE
8 x 12 Mesh Beads , Type 13X
NET WEIGHT 300 LBS.
DAVISON CODE 54408470201
DRUM NO. 1010

DISPOSE AT AN APPROVED LANDFILL IN ACCORD WITH LOCAL, STATE AND FEDERAL REGULATIONS.
For further information, see MSDS or call Day: 301-659-9000 OR Night: 301-355-4900

DL-9116R2

CAUTION

- Inhalation may irritate respiratory trac
- Avoid breathing of dust or prolonged cor tact with skin. Use with adequate ventil tion. If dusty conditions prevail, wear glove and NIOSH/MSHA approved dust mask.
- When transferring material into flammabl solvents, use proper grounding to avoi static electrical sparks.

FIRST AID

- If material gets into eyes, hold eyelids apa and flush eye with plenty of water for least 15 minutes.
- If material gets onto skin, wash with so and water.
- If inhaled, remove to fresh air.
- If swallowed, material will pass throug body normally.

GRACE

Davison Chemical Division
W. R. Grace & Co.
P.O. Box 2117
Baltimore, Maryland 21203
(301) 659-9000

MATERIAL SAFETY DATA SHEET

SAFETY DATA

PRODUCT: Formed Molecular Sieve

DATE: June 1, 1989

Emergency Contact:

J.H. Convey, Manager, Environmental Control Telephone No. (Home) 301-874-2009 (Office) 301-659-9058

The following information includes safety data required by OSHA. The recipient of this safety data is responsible for passing the safety information on so that it reaches the ultimate user who may come in contact with the material.

GRADE NAME:
Formed Molecular Sieves
GRADES: 512, 513, 514, 516, 518, 519, 522, 542, 544, 548, 562, 564, 568, 572, 574, 576, 612, 614, 625, 626, SZ-5, SZ-9, PSE, IGE, WZ-10

CHEMICAL NAME & FAMILY:
Synthetic Zeolite, A-TYPE Sieves, X-TYPE Sieves, Y-TYPE Sieves

SYNONYMS:
Sodium, Calcium or Potassium Aluminosilicate

CHEMICAL NOTATION OR STRUCTURE:
A-TYPE: Na_2O, CaO or $K_2O(Al_2O_3:2.0SiO_2:xH_2O)$
X-TYPE: Na_2O, CaO or $K_2O(Al_2O_3:2.8SiO_2:xH_2O)$
Y-TYPE: Na_2O, CaO or $K_2O(Al_2O_3:5.0SiO_2:xH_2O)$
Clay: $3\ MgO.1.5Al_2O3.8SiO_2.9H_2O$

INGREDIENTS:
Synthetic aluminosilicate (Zeolite)

Crystalline, nonfibrous zeolite of hydrated synthetic silica alumina, clay.

CAS REGISTRY NO:
1344-00-9 (Sodium Aluminosilicate)
1344-01-0 (Calcium Sodium Aluminosilicate)
55465-40-2 (Potassium Sodium Aluminosilicate)
1332-58-7 (Clay)

RTECS NO:
Molecular Sieve: VY2600000
Clay: No Listing

PRECAUTIONS IN USE:

Avoid prolonged breathing of the dust or contact of dust with the skin. The drying action of this material can cause irritation of the mucous membranes of the nose and throat and irritation of the skin. If its use requires manual handling, wear long sleeves and close-weave cotton gloves with tight-fitting wristlets. If dusty conditions prevail, use of an approved NIOSH/MSHA dust mask is recommended.

When pouring into a container of flammable liquid, ground both containers electrically to prevent a static electric spark.

Will release heat when adsorbing water. If a large quantity of sieve quickly adsorbs the equilibrium amount of water, the sieves can become hot enough to cause thermal burns of the skin. Avoid contact under these conditions. See SPECIAL INFORMATION, p. 4.

FIRST AID:

EYES: Immediately wash from eyes with large amounts of water, occasionally lifting upper & lower eye lids. If irritation occurs and persists, seek medical attention
SKIN: Wash with soap & water.
INGESTION: Material will pass through body normally.
INHALATION: Remove to fresh air.

TOXICOLOGY

ANIMAL TOXICOLOGY

TESTS FOR DOT HAZARD CLASSIFICATION:

Tests on Na_2O X-TYPE sieves gave the following results:

1-hour LC_{50} (rat) > 2.8 mg/l
48-hour oral LD_{50} (rat) est. > 31,600 mg/kg
48-hour dermal LD_{50} (rabbit) est. > 2,000 mg/kg
Not considered an ocular irritant.

TESTS FOR FDA APPROVAL FOR USE IN FOODS: Not a food-grade product.

Molecular Sieves are non-fibrous, synthetic aluminosilicates (zeolites) not to be confused with natural zeolites. All studies to date indicate that they do not cause significant health problems. When activated, molecular sieves act as a desiccant and can cause a drying irritation of the mucous membranes and skin in cases of severe exposure. The average concentration of quartz in this material is less 2.0% (maximum = 3.0%). Quartz has been classified by IARC as a Class 2A Carcinogen. Quartz can cause cancer, silicosis or other fibrotic lung disease with prolonged exposure. Davison knows of no medical conditions abnormally aggravated by exposure to this product. The primary route of entry is inhalation.

HUMAN TOXICOLOGY:

ENVIRONMENTAL DATA

t known to have any adverse effect on the aquatic environment when properly disposed. Insoluble and nontoxic.

TYPICAL CHEMICAL & PHYSICAL INFORMATION

APPEARANCE: White, gray, or tan, beads.

pH IN 5% SLURRY: 10.3 - 10.5

ODOR: Odorless

SPECIFIC GRAVITY: 2.1

BULK DENSITY: Powder Grades 5-15 lbs/ft.^{3}
Beaded Grades 40-50 lbs/ft.^{3}

SOLUBILITY IN WATER: Insoluble

APPROXIMATE ANALYSIS:

Mol ratios:	A-TYPE:	$1Na_2O:1Al_2O_3:2SiO_2:XH_2O$
	A-TYPE:	$0.8CaO:0.2Na_2O:1.0Al_2O_3:2.0SiO_2.xH_2O$
	A-TYPE:	$0.6K_2O:0.4N_2O:1.0Al_2O_3:2.0SiO_2.xH_2O$
	X-TYPE:	$1Na_2O:1Al_2O_3:2.8SiO_2:xH_2O$
	Y-TYPE:	$1Na_2O:1Al_2O_3:5.0SiO_2:xH_2O$
	CLAY:	$3\ MgO.1.Al_2O_3.8SiO_2.9H_2O$
Weight %:	Quartz:	< 2 (typical) Maximum - 3.0

STABILITY: Stable

REACTIVITY: Reacts with HF and strong acids or alkali

FIRE & EXPLOSION DATA: Non-flammable

REGULATORY STATUS

Mole Sieve

OSHA— PEL: Quartz, respirable = 0.1 mg/M^3 divided by (% quartz + 2)
Quartz, total = 30 mg/M^3 divided by (% quartz + 2)
Molecular Sieve = not listed, recommend 10 mg/M^3

NIOSH— Not included on the list of substances requiring toxicity studies.

EPA— This product contains no toxic chemicals in excess of the applicable de minimis concentration as specified under § 313 of Title III SARA.

ACGIH— TLV: Quartz, respirable = 0.1 mg/M^3
Quartz, total = not listed
Molecular Sieve = not listed, recommend 10 mg/M^3

USDA— Not applicable.

FDA— Not applicable.

DOT— Not classified as a hazardous material.

HANDLING INFORMATION

STORAGE AND TRANSPORTATION: Keep containers tightly sealed to protect product quality.

DISPOSAL: Landfill in accordance with local, state and federal regulations. Cover to avoid blowing of dust. See Special Information, below.

SPILLAGE AND CLEANUP: Vacuum or sweep up or flush to sewer treated for suspended solids removal.

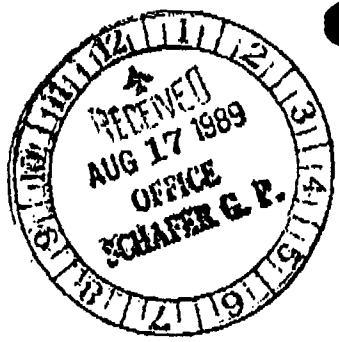
CONTAINERS: Bags and drum containers. Also available in other packaging as required, including bulk shipments by truck.

SPECIAL INFORMATION

When transferring beaded molecular sieves with high pressure air, wear goggles. Malfunction of equipment can propel beads with enough velocity to penetrate the skin. Make sure that the transfer system and receiving vessels are properly grounded. Follow standard operating instructions.

Following contact with typical petrochemicals or gases, molecular sieves must be handled with special precautions. The combination of molecular sieves and retained material can be flammable and toxic. Care should be taken to avoid sources of ignition and to avoid personal contact. Use approved disposal methods suitable for toxic wastes.

Weskem, Inc.
SUITE 100
10850 RICHMOND AVE.
HOUSTON, TEXAS 77042
FAX: (713) 977-5629
(713) 977-1466



WESKEM

Mole Sieve

August 8, 1989

TO OUR VALUED CUSTOMERS:

Recently we received word of a change in the classification of crystalline silicas (quartz) with regard to their reclassification as a "potential" human carcinogen. This necessitates a change in the Material Safety Data Sheet for molecular selves, which contain up to 3% quartz. A copy of the updated MSDS is enclosed.

The change in regulations also necessitates a revision of the labels for molecular seives to include the updated hazard warning. A sample of a typical label containing the warning statement is attached.

Under the OSHA Hazard Communication Standard, there are certain requirements for labelling and Material Safety Data Sheets (MSDS). These requirements are based on the presence of certain compounds determined by IARC, NTP, and OSHA as carcinogenic. There has been a change in the IARC (International Agency for Research on Cancer) classification of crystalline silica (quartz). It is now classified as a "potential" carcinogen to humans (Group 2a). Our products have remained the same, only the classification has changed.

Please note this change and refer to the Material Safety Data Sheet for additional information.

As an added service we have available a short video (VHS format), which may help you to understand the potential hazards of crystalline silica and clarify questions you may have regarding the change in regulatory status. A copy of this video is available upon request. You may contact your nearest Weskem office or Guy Brant at Weskem's Corporate office (713) 977-1466 or call Julian Covey at W. R. Grace, direct. His telephone number is (301) 659-9058.

Yours very truly,

B. Guy Brant

B. Guy Brant
Vice President, Administration

BGB/be
Enclosure

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: NATURAL GAS CONDENSATE

TELEPHONE: (214)670-2634

ENSERCH EXPLORATION INC.

I. PRODUCT IDENTIFICATION

2 HEALTH, 3 FLAMMABILITY, 0 REACTIVITY and (Blank) INSTABILITY based on "Standard System for the Identification of the Fire Hazards of Materials, NFPA No. 704, 1985 Edition"

MANUFACTURER'S NAME AND ADDRESS: E. P. Operating Company
P. O. Box 2649
Dallas, Texas 75221

CHEMICAL NAME:	Raw Natural Gas Liquid Mix (Petroleum) Drip Condensate, Gas Oil	
CAS NUMBER:	64741-48-6	
SYNONYMS/COMMON NAMES:	Natural Gasoline, Distillate	
CHEMICAL FORMULA:	$C_2 - C_8$ Aliphatic Hydrocarbons	
	Flashpoint <100 F	Flashpoint 100 F <200
DOT PROPER SHIPPING NAME:	Gasoline	Combustible Liquid NOS
DOT HAZARD CLASS:	Flammable Liquid	Combustible Liquid
DOT I.D. NUMBER:	UN 1203	NA 1993
HAZARDOUS SUBSTANCE:	NA	NA

II. HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	HAZARD DATA	CAS NUMBER	%
Drip Condensate*	PEL=None established TLV=None established	64741-48-6	100
May be similar to gasoline	PEL=None established TLV=300 ppm 8 hr. TWA		

(See Section V)

The materials in this product are listed in the TSCA Inventory. Not listed as carcinogenic by IARC, NTP, OSHA, ACGIH; see section V. The product may contain benzene; when in excess of 0.1 percent and not

CAS = Chemical Abstract Service Number
PEL = OSHA Permissible Exposure Limit
TLV = TLV, ACGIH Threshold Limit Value, Current
N/A = No relevant information found or not available
NA = Not applicable

contained in a pipe or container, the exposure is covered by OSHA 29 CFR 1910.1028 and .1000.

* The composition and water content varies significantly with the geographic source of the product.

III. PHYSICAL DATA

BOILING POINT @ 760 mm Hg : Variable
% VOLATILES BY VOL.: Essentially 100
VAPOR PRESSURE: 15-25 psi
SPECIFIC GRAVITY (H_2O=1): 0.5-0.6 @ 60°F
SOLUBILITY IN H_2O % BY WT: Negligible
APPEARANCE AND ODOR: Colored liquid with pungent odor; odor threshold 0.1 ppm and is not an index of exposure.

VAPOR DENSITY (Air=1): ~3.4
MELTING POINT: NA
EVAPORATION RATE (BuAc=1): N/A
pH: NA

IV. FIRE AND EXPLOSION DATA

FLASH POINT: 78 to 105°F

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS IN AIR, % BY VOLUME - UPPER: ~8 varies slightly
LOWER: ~1 with exact specification

EXTINGUISHING MEDIA: Dry chemical, foam or carbon dioxide; water spray may be ineffective on fighting fires of liquids with low flash points, but water spray should be used to keep fire exposed containers cool. If a leak has not ignited, use water spray to disperse the vapors and to protect the persons attempting to stop a leak.

UNUSUAL FIRE AND EXPLOSION HAZARD: Clothing, rags or similar organic material contaminated with the product and stored in a closed space may undergo spontaneous combustion. Transfer product to and from commonly grounded containers. Product spreads easily and can flash back along vapor trails.

V. HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA: The major effect of exposure to this product is central nervous system depression. Studies have shown that repeated exposure of laboratory animals to high concentrations of whole refined gasoline vapors at 67, 262 and 2056 ppm has caused kidney damage and cancer of the kidney in rats and liver cancer in mice.

MEDICAL CONDITION GENERALLY AGGRAVATED BY EXPOSURE: Conditions which have the same symptoms or effects as stated below.

MEDICAL LIMITATION: N/A

ROUTES OF EXPOSURE

INHALATION: Irritation of the upper respiratory tract with central nervous system stimulation, possibly followed by depression, dizziness, headache, incoordination, anesthesia, coma and respiratory arrest.

SKIN CONTACT: Defatting may occur with continued or prolonged contact. Irritation and burning sensation may occur on exposure to liquid or vapor phase.

SKIN ABSORPTION: Not significant.

EYE CONTACT: Liquid will cause severe burning sensation with temporary irritation and swelling of lids.

INGESTION: Irritation of mucous membranes of throat, esophagus and stomach may result in nausea and vomiting. Depression may occur if absorbed (See Inhalation above).

EFFECTS OF OVEREXPOSURE

ACUTE: Central nervous system depression with extreme overexposure; effects may include anesthesia, coma, respiratory arrest and irregular heart rate. Oxygen deprivation is possible if working in confined spaces.

CHRONIC: Experience has shown no major cumulative or latent effects to have resulted from exposure to this product (See Health Hazard Data above).

EMERGENCY AND FIRST AID PROCEDURES

EYES: Object is to flush material out then seek medical attention. Immediately flush eyes with large amounts of water for at least 25 minutes holding lids apart to ensure flushing of the entire eye surface. SEEK MEDICAL ATTENTION IMMEDIATELY.

SKIN: Wash contaminated areas with plenty of soap and water. A soothing ointment may be applied to irritated skin after thoroughly cleansing. Remove contaminated clothing and footwear. Seek medical attention if symptoms result.

INHALATION: Get person out of contaminated area to fresh air. If breathing has stopped, resuscitate and administer oxygen if readily available. SEEK MEDICAL ATTENTION IMMEDIATELY.

INGESTION: NEVER give anything by mouth to an unconscious person. If swallowed, do not induce vomiting. If vomiting occurs spontaneously, keep airway clear. SEEK MEDICAL ATTENTION IMMEDIATELY.

NOTES TO PHYSICIAN: Gastric lavage should be considered. Guard against aspiration into lungs which may result in chemical pneumonitis. Irregular heart beat may occur; use of adrenaline is not advisable. Treat symptomatically.

VI. REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY: Under normal conditions, the material is stable. Avoid sources of ignition such as flames, hot surfaces, electrical or functional sparks, etc.

INCOMPATIBILITY: Avoid contact with oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: This material may decompose at high temperatures to form carbon monoxide and other organic compounds.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION: Material is not known to polymerize.

VII. ENVIRONMENTAL PROCEDURES

SPILLS OR RELEASES: If material is spilled or released to the atmosphere, steps should be taken to contain liquids and prevent discharges to streams or sewer systems; and control or stop the loss of volatile materials to the atmosphere. Spills or releases should be reported, if required, to the appropriate local, state and federal regulatory agencies.

DISPOSAL: Clean-up action should be carefully planned and executed. Shipment, storage, and/or disposal of waste materials are regulated and action to handle or dispose of spilled or released materials must meet all applicable local, state and federal rules and regulations. If any question exists, the appropriate agencies should be contacted to assure proper action being taken. Waste product and contaminated material will be considered a hazardous waste if the flash point is less than 140° F requiring disposal at an approved hazardous waste facility.

STORAGE: Protect against physical damage. Outside or detached storage is preferred. Separate from oxidizing materials. Store in cool, well ventilated area of non-combustible construction away from possible sources of ignition.

VIII. INDUSTRIAL HYGIENE CONTROL MEASURES

VENTILATION REQUIREMENTS: Work in well ventilated areas. Special ventilation is not required under normal use. Use engineering controls to minimize exposure.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY: Respiratory protection is not required under normal use. Use NIOSH/MSHA approved respiratory protection, following manufacturer's recommendations where mist, spray or vapor may be generated. Supplied air respiratory protection is required for IDLH areas.

EYE: Face shield and goggles or chemical goggles should be worn, where mist or spray may be generated.

GLOVES: Impervious gloves should be worn, during routine handling of this product.

OTHER CLOTHING AND EQUIPMENT: Standard work clothing. Shoes contaminated with this product that cannot be decontaminated should be discarded. Clothing contaminated with this product should be removed, washed in soap and water and dried before reuse. Contaminated clothing should be stored in well ventilated areas. Shower and eyewash facilities should be accessible.

MONITORING EXPOSURE

BIOLOGICAL: No applicable procedure; breath analysis for hydrocarbons has been suggested.

PERSONAL/AREA: Both active and passive monitor employing charcoal absorption followed by gas chromatography-A molecular weight of 72.5 has been suggested as the most conservative average value to convert the determined weight of hydrocarbons to ppm. Direct reading indicating tubes are available to evaluate short term exposure.

MATERIAL SAFETY DATA SHEET

SECTION I — CORPORATE IDENTIFICATION

ANADARKO PETROLEUM CORPORATION
16855 NORTHCHASE DRIVE
P. O. BOX 1330
HOUSTON, TEXAS 77251-1330

EMERGENCY TELEPHONE NUMBER
(713) 875-1101

TELEPHONE NUMBER FOR INFORMATION
(713) 875-1101

SECTION II — PRODUCT/INGREDIENT

Trade Name:	Cas Registry No:	NFPA Hazard Rating (0=Least, 4=Extreme)
Natural Gas Liquid Mix	64741-48-6	2 HEALTH 4 FIRE 0 REACTIVITY

Hazardous Components

Chemical Name(s)	OSHA PEL	ACGIH TLV	Other Limits Recommended	%(opt)
Mixture of Aliphatic Hydrocarbons of Carbon Number 2-8	1000 ppm (propane)	800 ppm Butane	Simple Asphyxiant	
Benzene and/or N-hexane	1 ppm	10 ppm	10 ppm (NIOSH)	

Common Name(s)
NGL Mix
Raw Mix
Raw Make

Formula
A complex mixture of saturated aliphatic hydocarbons.

SECTION III - Physical/Chemical Characteristics

Boiling Point: -30 F	Specific Gravity (H20=1): .50
Vapor Pressure (mmHg.): 350 psi @ 70 F	Melting Point: -300F
Vapor Density (AIR=1): >1.58	Evaporation Rate: >1 (Butyl Acetate = 1)
Solubility in Water: NIL	Volatile, % by Volume: >95

Appearance and Odor:
Compressed gases and liquid - clear to yellow - distillate odor.

SECTION IV — **FIRE AND EXPLOSION HAZARD DATA**

Flash Point (Method Used)	Flammable Limits:
> -80 F	LEL: 3.0% UEL: 12.5%

Extinguishing Media:
Stop flow of gas, CO_2, dry chemical, foam.

Special Fire Fighting Procedures
Flammable gas. Do not extinguish fire unless gas source is stopped as a vapor cloud may form and explosive reignition is possible. If gas flow cannot be stopped, it is best to keep adjacent structures and involved vessels cool with water and let fire burn out. Self contained breathing equipment recommended for interior fires.

Unusual Fire and Explosion Hazards
Fire exposed containers may rupture explosively. Evacuate area of all unnecessary personnel. Readily forms explosive mixture with air and oxidizers.

SECTION V — **REACTIVITY DATA**

Stability			Conditions to Avoid
	Unstable		
	Stable	X	Strong Oxidants

Incompatibility (Materials to Avoid)
Strong Oxidants

Hazardous Decomposition or By-products:
CO, CO_2

Hazardous Polymerization			Conditions to Avoid
	May Occur		
	Will Not Occur	X	Sources of ignition

SECTION VI — **HEALTH HAZARD DATA**

Route(s) of Entry:	Inhalation?	Skin?	Eye?	Ingestion?
	Yes	Yes		Yes

Health Hazards (Acute and Chronic)
Inhalation: Gases are simple asphyxiants and/or anesthetic.
Ingestion: Ingestion is not probable but if ingestion of > 1oz of liquids does occur, may be harmful or fatal.
Skin: Vaporizing liquid may cause frostbite.
Chronic effect may cause dermatitis.
Eye: Vaporizing liquid may cause frostbite.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
Benzene	Yes	Yes	Yes

Signs and Symptoms of Exposure:
Inhalation: Concentration of vapors above 1% may cause anesthesia, nausea, vomiting, or lung irritation.
Skin contact: Contact with liquid may cause frostbite, drying, cracking, dermatitis.
Eye contact: Irritating, liquid may cause frostbite.
Ingestion: Ingestion of liquid portion (at room temperature) may cause burning of mouth, and upper GI tract, vomiting, diarrhea, general depression, respiratory difficulty, coma.

Medical Conditions Generally Aggravated by Exposure
Vapor: If inhaled, will cause dizziness, difficult breathing or loss of consciousness. Personnel with preexisting CNS or respiratory system disorder may have symptoms aggravated.

Emergency and First Aid Procedures
Inhalation: Remove to fresh air. Respiratory support if necessary. Seek Medical Care.
Skin: Wash with soap and water.
Eye: Flush with water for a least 20 minutes and continue until medical care received.
Ingestion: DO NOT induce vomiting.
Notes to physician: - High aspiration risk. For large amounts, careful gastric lavage.
- Eructation and gastroenteritis may be complication.
- Aspiration may cause chemical pneumonitis or lipoid pneumonia.

SECTION VII — PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case material is released or spilled
Evacuate the area. Remove all sources of ignition. Disperse vapor with water spray. Keep wind from leak. Follow Local, State and Federal Regulations. Vent to open air in safe area.

Waste Disposal Method
Use waterspray to disperse vapors. Evacuate until gas has dispersed. Follow Federal, State and Local Regulations.

Precautions to be taken in handling and storing
Keep away from heat, sparks and flame. Only approved metal containers should be used for storage. Containers are hazardous when empty as product vapor or liquid remains. Consult NFPA and OSHA codes. Transfer operations must be electrically grounded and bonded to dissipate static buildup.

Other precautions
No smoking in areas of storage or use.

SECTION VIII — CONTROL MEASURES

Respiratory Protection (Specify Type)
Use in well ventilated area. In confined spaces, mechanical ventilation may be required to keep levels of certain components below mandated standards. Responsible individuals should evaluate air concentration of specific regulated chemicals. Organic respirator recommended above TLV.

Ventilation	Local Exhaust Storage and use should be adequately ventilated	Special None
	Mechanical (General) Use explosion proof fans and blowers	Other N/A
Protective Gloves Impervious gloves for frequent or prolonged contact		Eye Protection: Goggles

Other Protective Clothing or Equipment
As needed to prevent skin contact.

Work/Hygienic Practices
This product may contain small quantities of Benzene and/or N-hexane. Persons handling this material should be evaluated for exposure to these chemicals in accordance with applicable Local, State, and Federal Regulations and good industrial hygiene practices.

Date prepared: November 11, 1987

MATERIAL SAFETY DATA SHEET

Union Carbide Corporation requests Customer to study this Material Safety Data Sheet and become aware of Product hazards. To promote safe handling Customer should (1) notify its employees, agents and contractors of the information on this Material Safety Data Sheet, and any Product hazards and safety information, (2) furnish a copy of this Material Safety Data Sheet to each of its customers for the Product and (3) request such customers to notify their employees and customers for the Product of the information on this Material Safety Data Sheet and any Product hazards and safety information.

I. IDENTIFICATION

PRODUCT NAME:	ETHYLENE GLYCOL		
CHEMICAL NAME:	Ethylene Glycol	CHEMICAL FAMILY:	Glycols
FORMULA:	HOC_2H_4OH	MOLECULAR WEIGHT:	62.07
SYNONYMS:	EG; Glycol; 1,2-Ethanediol		
DEPARTMENT OF TRANSPORTATION	HAZARD CLASSIFICATION	None	
	SHIPPING NAME	None	
CAS # 107-21-1	CAS NAME	1,2-Ethanediol	

II. PHYSICAL DATA

BOILING POINT, 760 mm Hg 101.325 kPa	197 °C (387 °F)	FREEZING POINT	−13.0 °C (9 °F)
SPECIFIC GRAVITY (H_2O = 1)	1.115 at 20/20 °C	VAPOR PRESSURE at 20 °C	0.08 mm Hg 0.01 kPa
VAPOR DENSITY (air = 1)	2.1	SOLUBILITY IN WATER, % by wt.	100
APPEARANCE AND ODOR	Colorless liquid; mild odor.	EVAPORATION RATE (Butyl Acetate = 1)	0.01

III. INGREDIENTS

MATERIAL	% by Weight	TLV (Units)	HAZARD
Ethylene Glycol	100	50 ppm, ceiling-vapor. TLV for particulates deleted (ACGIH Notice of Intended Changes, 1982)	Toxic

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT [test method(s)]	241 °F, Tag closed cup, ASTM D 56. 240 °F, Cleveland open cup, ASTM D 92.				
FLAMMABLE LIMITS IN AIR, % by volume	LOWER	3.2 (Calculated)	UPPER	15.3 (Estimated)	

EXTINGUISHING MEDIA	Use water spray, carbon dioxide, dry chemical, alcohol-type or universal-type foams applied by manufacturers' recommended technique.
SPECIAL FIRE FIGHTING PROCEDURES	Do not spray pool fires directly. A solid stream of water directed into hot, burning liquid can cause frothing. Use self-contained breathing apparatus and protective clothing.
UNUSUAL FIRE AND EXPLOSION HAZARDS	None

EMERGENCY PHONE NUMBER

304/744-3487

This number is available days, nights, weekends, and holidays.

Ethylene Glycol

V. HEALTH HAZARD DATA

TLV AND SOURCE:	Vapors: 50 ppm, ceiling; ACGIH (1982). TLV for Particulates Deleted (ACGIH Notice of Intended Changes, 1982)

ACUTE EFFECTS OF OVEREXPOSURE	
SWALLOWING	May cause abdominal discomfort and pain, dizziness, malaise, lumbar pain, oliguria, uremia, and central nervous system depression. Severe kidney damage accompanies gross overexposure.
SKIN ABSORPTION	None currently known.
INHALATION	May cause irritation of the throat and headache. High vapor concentrations caused, for example, by heating the material in an enclosed and poorly ventilated workspace may produce nausea, vomiting, headache, and dizziness.
SKIN CONTACT	None currently known.
EYE CONTACT	Liquid, vapors, and particularly mists, may be irritating to the eyes.
CHRONIC EFFECTS OF OVEREXPOSURE	Inhalation of mists may produce signs of central nervous system effects, particularly dizziness and nystagmus.
OTHER HEALTH HAZARDS	None currently known.

EMERGENCY AND FIRST AID PROCEDURES:	
SWALLOWING	If conscious, give two glasses of water and induce vomiting. Call a physician immediately.
SKIN	Remove contaminated clothing and flush skin with water.
INHALATION	Remove to fresh air. Call a physician if discomfort persists.
EYES	Flush with water.

NOTES TO PHYSICIAN

The principal toxic effect of this material, when swallowed, will be due to the ethylene glycol content, which causes kidney damage. Early administration of ethanol may block the formation of nephrotoxic metabolites of ethylene glycol in the liver. Ethanol should be given intravenously, as a 5% solution in sodium bicarbonate, at a rate of about 10 ml. of ethanol per hour. Hemodialysis may be required.

Ethylene Glycol

VI. REACTIVITY DATA

STABILITY			
UNSTABLE	STABLE	CONDITIONS TO AVOID	--
--	✓		

INCOMPATIBILITY (materials to avoid)	--
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS	Burning may produce carbon monoxide and/or carbon dioxide.

HAZARDOUS POLYMERIZATION			
May Occur	Will not Occur	CONDITIONS TO AVOID	None
--	✓		

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Wear suitable protective equipment. Small spills should be flushed with large quantities of water. Larger spills should be collected for disposal.
WASTE DISPOSAL METHOD	Incinerate in a furnace where permitted under appropriate Federal, State, and local regulations.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)	Self-contained breathing apparatus in high concentrations.
VENTILATION	General (mechanical) room ventilation is expected to be adequate if handled in covered equipment. Local exhaust ventilation is needed at points where vapor is expected to be vented to the workplace air.

PROTECTIVE GLOVES	Rubber or Plastic	EYE PROTECTION	Monogoggles/ Face Shield
OTHER PROTECTIVE EQUIPMENT	Eye bath and safety shower		

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

May be fatal if swallowed.
Do not breath mist.
Avoid prolonged or repeated breathing of vapor.
Avoid contact with eyes.
Wash thoroughly after handling.

FOR INDUSTRY USE ONLY

OTHER PRECAUTIONS

Where heavy concentrations of a fine mist are present, a respirator should be used to prevent inhaling mist particles.

NAVAJO REFINING COMPANY
P. O. DRAWER 159
ARTESIA, NM 88211-0159
(505) 748-3311 (24 Hours)

MATERIAL SAFETY DATA SHEET

EMERGENCY PHONE NUMBERS:

CHEMTREC: 1-800-424-9300 (for fire, spill and emergency response information)
NEW MEXICO POISON INFORMATION CENTER: 1-800-432-6866 (for poisoning)
TEXAS (EL PASO) POISON INFORMATION CENTER: (915) 533-1244 (for poisoning)
ARIZONA POISON INFORMATION CENTER: 1-800-362-0101 or (602) 253-3334 (for poisoning)

PROPANE

SECTION 1 - PRODUCT IDENTIFICATION

PRODUCT NAME: PROPANE
CHEMICAL FAMILY: Aliphatic Hydrocarbon
SYNONYMS: Propane, LPG, Dimethylmethane, UN 1978

CAS NUMBER: 74-98-6
FORMULA: C_3H_8

NFPA 704 SYMBOL

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS	CAS NO.	APPROX. VOL%	TLV	PEL (OSHA)
Propane	74-98-6	95	N.A.	1000 ppm
Propylene	115-07-1	5	N.A.	N.A.

OTHER INGREDIENT INFORMATION:
This product may contain low part per million levels of Hydrogen Sulfide or other sulfur compounds such as mercaptans. Propane is listed as a simple asphyxiant. Propylene is listed as a hazardous substance not otherwise classified.

SECTION 3 - PHYSICAL DATA

BOILING POINT: -43.7°F
VAPOR PRESSURE: 10350 mm Hg @ 100°F
VAPOR DENSITY (AIR=1): 1.5503
SOLUBILITY IN WATER: Slight
ODOR THRESHOLD: 5000-20000 ppm
SPECIFIC GRAVITY (WATER=1): 0.51
% VOLATILE BY VOLUME: 100%
EVAPORATION RATE: N.A.
AUTOIGNITION TEMP: 842°F
APPEARANCE AND ODOR: Colorless gas, liquid under pressure, faint gassy odor.

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

CLASSIFICATION: FLAMMABLE GAS
FLASH POINT: GAS
FLAMMABLE LIMITS: LEL = 2.1. UEL = 9.5
EXTINGUISHING MEDIA: Dry chemical, CO_2, Water, Halon
SPECIAL FIRE FIGHTING PROCEDURES: Stop flow of gas. If a leak or spill has not ignited, use water fog to disperse the gas and to protect personnel attempting to stop the leak.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Move container from fire area if possible. Use wate to keep fire exposed containers cool. Evacuate a radius of 1/2 mile for uncontrolled fires. Stay upwind out of low areas. Ventilate enclosed areas. Vapors may travel long distances and flash back. Containers may explode in fire.
NFPA FIRE = 4 (extreme)

SECTION 8 - ENVIRONMENTAL AND SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Use NIOSH\MSHA approved respiratory protection in areas exceedin exposure limits, the type to be determined by the degree of exposure.

VENTILATION: Use in well ventilated area. Mechanical exhaust should be explosion proof.

EYE/SKIN PROTECTION: Full face protection, leather or rubber gloves, coveralls with long sleeves.

WORK/HYGIENIC PRACTICES: Remove contaminated clothing as soon as possible. Always wash after handling hazardous chemicals.

NOTICE: This product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

REFER TO DEPARTMENT OF TRANSPORTATION (DOT) EMERGENCY RESPONSE GUIDEBOOK GUIDE 22 FOR ADDITIONAL EMERGENCY INFORMATION.

MATERIAL SAFETY DATA SHEET		ASHLAND CHEMICAL, INC. Subsidiary Of Ashland Inc P.O. BOX [illegible]9 COLUMBUS, OHIO 43216 (614) 889-3333	24-HOUR Emergency Telephone 1(800) 274-5263 or 1(800) ASHLAND

001809

ASHLAND PERMANENT ANTIFREEZE

THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

****

Product Name: ASHLAND PERMANENT ANTIFREEZE

Data Sheet No: 0196995-002
Prepared: 05/31/89
Supersedes: 12/22/88

05 50 039 7364680-

QUEEN OIL & GAS CO INC
PO BOX 959
CARLSBAD NM 88220

PRODUCT: 7523006
INVOICE: 342245
INVOICE DATE: 09/09/90
TO: QUEEN OIL & GAS CO INC
3202 SOUTH CANAL
CARLSBAD NM 88220

ATTN: PLANT MGR./SAFETY DIR.

SECTION I - PRODUCT IDENTIFICATION

General or Generic ID: GLYCOL

DOT Hazard Classification: NOT APPLICABLE

SECTION II - COMPONENTS

IF PRESENT, IARC, NTP AND OSHA CARCINOGENS AND CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III SECTION 313 ARE IDENTIFIED IN THIS SECTION.
SEE DEFINITION PAGE FOR CLARIFICATION

INGREDIENT	% (by WT)	PEL	TLV	Note
SODIUM TETRABORATE DECAHYDRATE CAS #: 1303-96-4	1-10	10 MG/M3	5 MG/M3	
ETHYLENE GLYCOL CAS #: 107-21-1	89	50 PPM - CEILING	50 PPM - CEILING	(1)

Notes:

(1) THIS CHEMICAL IS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF SARA TITLE III.

SECTION III - PHYSICAL DATA

Boiling Point	for COMPONENT(89%)	379.00 Deg F (192.77 Deg C) @ 760.00 mm Hg
Vapor Pressure	for COMPONENT(89%)	< 0.10 mm Hg @ 68.00 Deg F (20.00 Deg C)
Specific Vapor Density		HEAVIER THAN AIR
Specific Gravity		GREATER THAN WATER
Percent Volatiles		>60%
Evaporation Rate		SLOWER THAN ETHER

SECTION IV - FIRE AND EXPLOSION INFORMATION

FLASH POINT NOT APPLICABLE

EXPLOSIVE LIMIT (LOWEST VALUE OF COMPONENT) LOWER - 3.2%

EXTINGUISHING MEDIA: WATER FOG OR CARBON DIOXIDE OR DRY CHEMICAL

HAZARDOUS DECOMPOSITION PRODUCTS: MAY FORM TOXIC MATERIALS:, CARBON DIOXIDE AND CARBON MONOXIDE, ETC.

FIREFIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE WHEN FIGHTING FIRES.

WATER OR FOAM MAY CAUSE FROTHING WHICH CAN BE VIOLENT AND POSSIBLY ENDANGER THE LIFE OF THE FIREFIGHTER, ESPECIALLY IF SPRAYED INTO CONTAINERS OF HOT, BURNING LIQUID.

SPECIAL FIRE & EXPLOSION HAZARDS: NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

NFPA CODES: HEALTH- 1 FLAMMABILITY- 1 REACTIVITY- 0

SECTION V - HEALTH HAZARD DATA

EFFECTS OF ACUTE OVEREXPOSURE: FOR PRODUCT

EYES - CAN CAUSE IRRITATION.
SKIN - CAN CAUSE SLIGHT IRRITATION.
BREATHING - EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL AND RESPIRATORY IRRITATION.
SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND DIARRHEA.

FIRST AID:

IF ON SKIN: THOROUGHLY WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. LAUNDER CONTAMINATED CLOTHING BEFORE RE-USE.

IF IN EYES: FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY, GET MEDICAL ATTENTION.

CONTINUED ON PAGE: 2

MATERIAL SAFETY DATA SHEET	Ashland	ASHLAND CHEMICAL, INC. Subsidiary of Ashland, Inc. P.O. BOX 2219 COLUMBUS, OHIO 43216 (614) 889-3333	24-HOUR Emergency Telephone 1(800) 274-5263 or 1(800) ASHLAND

DEFINITIONS

This definition page is intended for use with Material Safety Data Sheets supplied by the Ashland Chemical Company. Recipients of these data sheets should consult the OSHA Safety and Health Standards (29 CFR 1910), particularly subpart G - Occupational Health and Environmental Control, and subpart I - Personal Protective Equipment, for general guidance on control of potential Occupational Health and Safety Hazards.

SECTION I
PRODUCT IDENTIFICATION

GENERAL OR GENERIC ID: Chemical family or product description.

DOT HAZARD CLASSIFICATION: Product meets DOT *criteria for hazards listed.*

SECTION II
COMPONENTS

Components are listed in this section if they present a physical or health hazard and are present at or above 1% in the mixture. If a component is identified as a CARCINOGEN by NTP, IARC, or OSHA as of the date on the MSDS, it will be listed and footnoted in this section when present at or above 0.1% in the product. Negative conclusions concerning carcinogenicity are not reported. Additional health information may be found in Section V. Components subject to the reporting requirements of Section 313 of SARA Title III are identified in the footnotes in this section, along with typical percentages. Other components may be listed if deemed appropriate.

Exposure recommendations are for components. OSHA Permissible Exposure Limits (PELS) and American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) appear on the line with the component identification. Other recommendations appear as footnotes.

SECTION III
PHYSICAL DATA

BOILING POINT: Of product if known. The lowest value of the components is listed for mixtures.

VAPOR PRESSURE: Of product if known. The highest value of the components is listed for mixtures.

SPECIFIC VAPOR DENSITY: Compared to AIR = 1. If the Specific Vapor Density of a product is not known, the value is expressed as lighter or greater than air.

SPECIFIC GRAVITY: Compared to WATER = 1. If Specific Gravity of product is not known, the value is expressed as less than or greater than water.

pH: If applicable.

PERCENT VOLATILES: Percentage of material with initial boiling point below 425 degrees Fahrenheit and vapor pressure above 0.1mm Hg at 68 F.

EVAPORATION RATE: Indicated as faster or slower than ETHYL ETHER, unless otherwise stated.

SECTION IV
FIRE AND EXPLOSION DATA

FLASH POINT: Method identified.

EXPLOSION LIMITS: For product if known. The lowset value of the components is listed for mixtures.

HAZARDOUS DECOMPOSITION PRODUCTS: Known or expected hazardous products resulting from heating, burning or other reactions.

SECTION IV (cont.)

EXTINGUISHING MEDIA: Following National Fire Protection Association criteria.

FIREFIGHTING PROCEDURES: Minimum equipment to protect firefighters from toxic products of vaporization, combustion or decomposition in fire situations. Other firefighting hazards may also be indicated.

SPECIAL FIRE AND EXPLOSION HAZARDS: States hazards not covered by other sections.

NFPA CODES: Hazard ratings assigned by the National Fire Protection Association.

SECTION V
HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LIMIT: For product.

THRESHOLD LIMIT VALUE: For product.

EFFECTS OF ACUTE OVEREXPOSURE: Potential local and systemic effects due to single or short term overexposure to the eyes and skin or through inhalation or ingestion.

EFFECTS OF CHRONIC OVEREXPOSURE: Potential local and systemic effects due to repeated or long term overexposure to the eyes and skin or through inhalation or ingestion.

FIRST AID: Procedures to be followed when dealing with accidental overexposure.

PRIMARY ROUTE OF ENTRY: Based on properties and expected use.

SECTION VI
REACTIVITY DATA

HAZARDOUS POLYMERIZATION: Conditions to avoid to prevent hazardous polymerization resulting in a large release of energy.

STABILITY: Conditions to avoid to prevent hazardous or violent decomposition.

INCOMPATIBILITY: Materials and conditions to avoid to prevent hazardous reactions.

SECTION VII
SPILL OR LEAK PROCEDURES

Reasonable precautions to be taken and methods of containment, clean-up and disposal. Consult federal, state and local regulations for accepted procedures and any reporting or notification requirements.

SECTION VIII
PROTECTIVE EQUIPMENT TO BE USED

Protective equipment which may be needed when handling the product.

SECTION IX
SPECIAL PRECAUTIONS OR OTHER COMMENTS

Covers any relevant points not previously mentioned.

ADDITIONAL COMMENTS

Containers should be either reconditioned by CERTIFIED firms or properly disposed of by APPROVED firms. Disposal of containers should be in accordance with applicable laws and regulations. "EMPTY" drums should not be given to individuals. Serious accidents have resulted from the misuse of "EMPTIED" containers (drums,pails,etc.). Refer to Sections IV and IX.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

REVISED:01/24/91

********** I. PRODUCT IDENTIFICATION **********

MOBIL PEGASUS 390

SUPPLIER:
MOBIL OIL CORP.

CHEMICAL NAMES AND SYNONYMS:
PET. HYDROCARBONS AND ADDITIVES

USE OR DESCRIPTION:
GAS ENGINE OIL

HEALTH EMERGENCY TELEPHONE:
(609) 737-4411

TRANSPORT EMERGENCY TELEPHONE:
(800) 424-9300 (CHEMTREC)

PRODUCT TECHNICAL INFORMATION:
(800) 662-4525

********** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES **********

APPEARANCE: Amber Liquid ODOR: Mild PH: NA
VISCOSITY AT 100 F, SUS: 442.5 AT 40 C, CS: 85.0
VISCOSITY AT 210 F, SUS: 60.2 AT 100 C, CS: 10.0
FLASH POINT F(C): > 425(218) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): 5(-15)
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.882 SOLUBILITY IN WATER: Negligible
VAPOR PRESSURE-mm Hg 20C: < .1

NA=Not Applicable NE=Not Established D=Decomposes

FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

********** III. POTENTIALLY HAZARDOUS INGREDIENTS **********

None

SEE SECTIONS XII AND XIII FOR REGULATORY AND FURTHER COMPOSITIONAL DATA.

SOURCES: A=ACGIH-TLV, A*=Suggested-TLV, M=Mobil, O=OSHA, S=Supplier
NOTE: Limits shown for guidance only. Follow applicable regulations.

********** IV. HEALTH HAZARD DATA **********

--- INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED ---

THRESHOLD LIMIT VALUE: 5.00 mg/m3 Suggested for Oil Mist
EFFECTS OF OVEREXPOSURE: Slight eye irritation. Slight skin irritation.

********** V. EMERGENCY AND FIRST AID PROCEDURES **********

--- FOR PRIMARY ROUTES OF ENTRY ---

EYE CONTACT: Flush with water.
SKIN CONTACT: Wash contact areas with soap and water.
INHALATION: Not expected to be a problem.
INGESTION: Not expected to be a problem. However, if greater than 1/2 liter(pint) ingested, immediately give 1 to 2 glasses of water and call a physician, hospital emergency room or poison control center for assistance. Do not induce vomiting or give anything by mouth to an unconscious person.

********** VI. FIRE AND EXPLOSION HAZARD DATA **********

FLASH POINT F(C): > 425(218) (ASTM D-92)
FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.
SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. For fires in enclosed areas, firefighters must use self-contained breathing apparatus. Prevent runoff from fire control or dilution from entering streams or drinking water supply.
UNUSUAL FIRE AND EXPLOSION HAZARDS: None.
NFPA HAZARD ID: Health: 0, Flammability: 1, Reactivity: 0

********** VII. REACTIVITY DATA **********

STABILITY (Thermal, Light, etc.): Stable
CONDITIONS TO AVOID: Extreme heat.
INCOMPATIBILITY (Materials to Avoid): Strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide.
HAZARDOUS POLYMERIZATION: Will not occur.

********** VIII. SPILL OR LEAK PROCEDURE **********

ENVIRONMENTAL IMPACT: Report spills as required to appropriate authorities. U. S. Coast Guard regulations require immediate reporting of spills that could reach any waterway including intermittent dry creeks. Report spill to Coast Guard toll free number (800) 424-8802. In case of accident or road spill notify CHEMTREC (800) 424-9300.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: Adsorb on fire retardant treated sawdust, diatomaceous earth, etc. Shovel up and dispose of at an appropriate waste disposal facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal.
WASTE MANAGEMENT: Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the resource conservation and recovery act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at any government approved waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

********** IX. SPECIAL PROTECTION INFORMATION **********

EYE PROTECTION: Normal industrial eye protection practices should be employed.
SKIN PROTECTION: No special equipment required. However, good personal hygiene practices should always be followed.
RESPIRATORY PROTECTION: No special requirements under ordinary conditions of use and with adequate ventilation.
VENTILATION: No special requirements under ordinary conditions of use and with adequate ventilation.

********** X. SPECIAL PRECAUTIONS **********

No special precautions required.

********** XI. TOXICOLOGICAL DATA **********

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): Slightly toxic (estimated) ---Based on testing of similar products and/or the components.

DERMAL TOXICITY (RABBITS): Slightly toxic (estimated) ---Based on testing of similar products and/or the components.

INHALATION TOXICITY (RATS): Not applicable ---Harmful concentrations of mists and/or vapors are unlikely to be encountered through any customary or reasonably foreseeable handling, use, or misuse of this product.

EYE IRRITATION (RABBITS): May cause slight irritation. ---Based on testing of similar products and/or the components.

SKIN IRRITATION (RABBITS): May cause slight irritation on prolonged or repeated contact. ---Based on testing of similar products and/or the components.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

Severely solvent refined and severely hydrotreated mineral base oils have been tested at Mobil Environmental and Health Sciences Laboratory by dermal application to rats 5 days/week for 90 days at doses significantly higher than those expected during normal industrial exposure. Extensive evaluations including microscopic examination of internal organs and clinical chemistry of body fluids, showed no adverse effects.

---CHRONIC TOXICOLOGY (SUMMARY)---

The base oils in this product are severely solvent refined and/or severely hydrotreated. Chronic mouse skin painting studies of similar oils showed no evidence of carcinogenic effects.

********** XII. REGULATORY INFORMATION **********

GOVERNMENTAL INVENTORY STATUS: All components registered in accordance with TSCA.

DOT:

Shipping Name: Not applicable
Hazard Class: Not applicable

US OSHA HAZARD COMMUNICATION STANDARD: Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined not to be hazardous.

RCRA INFORMATION: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D); does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity, and is not formulated with the contaminants listed in the Toxicity Characteristic (TC) Rule as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

U.S. Superfund Amendments and Reauthorization Act (SARA) Title III:
This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (302) REPORTABLE HAZARD CATEGORIES: None

This product contains no chemicals reportable under SARA (313) toxic release program.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
FORMALDEHYDE	50-00-0	12
ZINC (ELEMENTAL ANALYSIS) (.03%)	7440-66-6	15

--- KEY TO LIST CITATIONS ---

1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
16 = FL RTK, 17 = PA RTK, 18 = CA P65.

--- NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS ---

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

********** XIII. INGREDIENTS **********

INGREDIENT DESCRIPTION	PERCENT	CAS NUMBER
CONTAINS THE FOLLOWING BASE OILS:	> 90.00	
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY PARAFFINIC		64742-54-7
CONTAINS ONE OR MORE OF THE FOLLOWING ADDITIVE COMPONENTS:		
ALKYL AMIDES	< 5.00 NJT	003066009-5094P
POLYISOBUTENYL BUTANEDIOIC ACID, ZINC SALT	< 5.00	68610-89-9

********** APPENDIX **********

FOR MOBIL USE ONLY: (FILL NO: RN612C2*201) MCN: , MHC: 1* 1* NA 1* 1*, MPPEC: A, PPEC: A, US90-837 APPROVE 01/24/91

****

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

****

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (800) 227-0707 X3265